

## Claremont Colleges Scholarship @ Claremont

---

CMC Senior Theses

CMC Student Scholarship

---

2015

# Schaffer and Monism: Validating the Priority of the Whole

Phillip AV Pennell  
*Claremont McKenna College*

---

### Recommended Citation

Pennell, Phillip AV, "Schaffer and Monism: Validating the Priority of the Whole" (2015). *CMC Senior Theses*. Paper 1222.  
[http://scholarship.claremont.edu/cmc\\_theses/1222](http://scholarship.claremont.edu/cmc_theses/1222)

This Open Access Senior Thesis is brought to you by Scholarship@Claremont. It has been accepted for inclusion in this collection by an authorized administrator. For more information, please contact [scholarship@cuc.claremont.edu](mailto:scholarship@cuc.claremont.edu).

Claremont McKenna College

**Schaffer and Monism: Validating the Priority of the Whole**

Submitted to:  
Professor James Kreines  
And  
Dean Peter Ulvin

By  
Phillip Pennell

Senior Thesis  
Fall 2015  
11/30/2015



## Table of Contents

Introduction.....	4
Grounding as Schaffer Sees It.....	5
Monism and Pluralism .....	8
Atomless Gunk.....	13
The Ultimate Ground .....	16
Limiting Schaffer .....	20
Redefining Grounding through Relation .....	26
Space-Time as the Ultimate Ground.....	28
Differentiating Between Space-Time and Foundationalist Monism .....	35
Conclusion .....	38
Sources .....	40



## Introduction

In *Monism: The Priority of the Whole*, Philosopher Jonathan Schaffer provides a compelling argument for the Cosmos being supported by one thing, as opposed to the traditional view that sees the Cosmos as supported by the smallest possible particles. This paper will examine and expand upon the metaphysical work of Jonathan Schaffer in so far as it concerns metaphysical Grounding and the philosophical schools of Monism and Pluralism.

In order to do so, I will first attempt to explain and understand Schaffer's version of Grounding, and contrast Grounding with causation. This will be vital to understanding what exactly mereology is, as well as how Schaffer's arguments for Monism work. I will then work to clarify what requirements and constraints Schaffer places on mereology, as well as explain what exactly the mereological debate is. Following this, I will use these requirements and constraints to help describe Schaffer's argument for Monism. After examining the work already done on the Monist side, I will show the inherent weakness in arguments that have been made for the Ultimate Ground, a requirement for Schaffer's Monist argument. I will do so by attempting to force him in to accepting the PSR, and then will attempt to limit his knowledge through Kant's views on space and time. I then attempt to address the challenge I have raised to the Ultimate Ground by dropping Foundationalism as a requirement, slightly changing the required nature of Grounding, and proposing Space-Time as the Ultimate Ground in accordance with this new framework.

## Grounding as Schaffer Sees It

The first thing I shall do is to explain what exactly Grounding is, in a modern philosophical context. Historically, the concept of some sort of support for the universe has been present in philosophers such as Plato<sup>1</sup> and Loewer. (G4) The simplest way it can be explained (and doing it in this way leaves it vulnerable to being easily misconstrued) is as a sort of causation in the metaphysical world<sup>2</sup>. A Grounding question asks what is responsible for the existence or state of something, and so in this way, a parallel may be drawn between it and a causal question. At the same time, it does not imply the temporal, action or creationist frameworks that causation might.

What this means is perhaps best explained through analogy. An ever popular method of creating an “image” of what Grounds the universe is that of the turtles. Imagine a scenario in which our universe (or the world, or what have you) is supported on the back of a turtle. That turtle, in turn, is supported by yet another turtle beneath it, ad infinitum. The first turtle in this situation is grounded by the second. This doesn’t imply causation in a traditional sense, as we do not seem to suggest that the second turtle created the first, merely that it is responsible for the fact that the first turtle is being held up and that the first turtle, in turn, can hold up the world. That relationship of support

---

<sup>1</sup> The classic challenge in *Euthyphro* asks if the good is good because God thinks it is, or if God simply likes an already existing good. In the first case, God is not truly a good being, for everything it likes automatically is good, and in the second case, God is not all powerful, as the good precedes him.

<sup>2</sup> The use of the word causation here is possibly misleading. This does not refer to causation as we know it (two colliding billiard balls) but instead attempts to make the term Grounding more accessible to those who might be able to view it as a sort of metaphysical cause.

between the turtles, as best as I can explain it, encompasses the concept of Grounding.

(JK)

Schaffer's *Grounding in the Image of Causation* also spends some time explaining Grounding in the way Aristotle did- that Grounding is the dependence of truth on being. (G4) If I were to say that Socrates was once a philosopher, that statement would be true because Socrates was once a philosopher. It is not, however, the case that Socrates was once a philosopher because my statement is true. The Grounding relationship in this case is between the truth of the statement and the existence of Socrates-Socrates' existence makes that statement true, although it does not exactly cause it to be true. In another case, consider a basketball-round and orange. On one view, the orange and round natures of the basketball are grounded in the existence of the basketball, and asymmetry exists because the basketball is not grounded in the orange and round natures it possesses.

Having spoken a bit about Grounding, I would like to spend a bit of time differentiating between what we have established as Grounding and classical causation in order to minimize any possible misconceptions. Causation is a more easily understandable relationship, and one that operates comfortably in the framework of time.  $X \rightarrow Y$  is acceptable as causation, but the nature of such a process (an arrow can indicate that X comes before Y and that Y can now exist independent of X) would prevent it from being Grounding.

Causation and Grounding can both explain the origin of stuff<sup>3</sup> but do so in different ways. For example, if I were to find a strong wall, and asked why there was a

---

<sup>3</sup> States, events, etc.



strong wall in front of me, both causation and Grounding could give me correct answers.

In a causal sense, that strong wall is there because someone built it from a tough material (let's say iron) and wanted to keep out intruders. In so far as Grounding is concerned, that wall exists because the strong molecules that make up the iron exist in a way that supports a barrier I cannot pass. A causal question asks "why is this wall here?" while a Grounding one asks "what is this wall here?".

For Schaffer, causation and Grounding are analogous in the following ways: They both possess explanatory power, they both are generative relations, and are both backed by non-accidental generalizations. (G11) There is, however, as described, a subtle difference between the two (at least in the way I hope to have described them). This difference will become incredibly important when we look at the arguments for and against Monism, if only for reasons of getting around the logical challenges the word "causation" might throw at us. As a result, it is very important, when reading the rest of this paper, not to confuse the limits of my own writing and human intuition with the actual intent of my arguments. As difficult as it is to imagine one thing supporting another without time or classical causation, it is vital to the nature of this discussion.

## Monism and Pluralism

Having defined Grounding, I will spell out some Ground rules for the debate of Monism and pluralism. In following Schaffer, we will try to keep our debate to the physical in the Cosmos. What I mean by this is that we are not concerning ourselves with religion or other potential immaterial influences. We concern ourselves with fundamental parthood, which seeks to find the mereological order of whole and part, as well as the metaphysical order of prior and posterior. (M33) This means that we are trying to figure out what pieces and whole are at play in the Cosmos, as well as which of these are prior<sup>4</sup> to others. I will now show that of all possible explanations, solely pluralism and Monism emerge as possible contenders.

In order to show pluralism and Monism as exclusive and exhaustive, we must first establish a basic understanding of a few important things. We know that there is such a thing as the Whole. We observe the Whole in small things, such as animals or objects, and conceive of the Cosmos as being a unitary entity, regardless of what the Ground is. The Whole in small things is simple. If we see an object, like a book, we know that there is a whole that is a book. There are arguably individual separate parts of it, and yet it is also a distinct entity. The same can be said of the Cosmos.

In claiming that the Cosmos can either be pluralist or Monist, Schaffer relies on the principle of the tiling constraint. Simply put, the Whole must exhaustively be all things, and all things must make up the Whole. What this is to say is that for the Whole to

---

<sup>4</sup> In importance, not time

truly be the Whole in the cosmological sense, it must explain everything. There can be no aspect of our Cosmos that is not part of the whole entire Cosmos. This is essentially a truism. At the same time, all of the parts of our Cosmos must make up the whole entire Cosmos. If we were to take inventory of every part of the Cosmos, we would be missing nothing needed to complete it. Once again, this seems fairly self-explanatory. Schaffer uses a pie as an example. No matter how we choose to cut the pie, all of the pieces add up to the Whole pie, and the Whole pie is composed of all pieces. (M41) Another important addition to the tiling constraint is that there can be no overlap. This means that every part and the Whole must be distinct. Two slices of pie cannot take up the same existential space.

From the tiling constraint, Schaffer can easily show that only Monism or pluralism are possible. Monism, in the many forms it has taken, simply says that the Whole of the Cosmos is prior, while pluralism states that the parts of the Cosmos are prior. The pluralist believes that there exist multiple basic objects, as the Cosmos is not basic.

Schaffer frames both of these approaches as foundationalist (M37).

Foundationalism, as it relates to Grounding, suggests that there must be something that is the cause of everything. Foundationalism also deals with a well-founded partial ordering of Grounds. In this sense, foundationalism advocates for a sort of Grounding in which support must flow up (pluralism) or down (Monism) by necessity. Additionally, the sort of support this Grounding implies is a strong one-about as close to causal as one can get while maintaining the definition of Grounding.

There are a few important notes worth taking here in regard to the many different types of these two philosophies. Monism, for example, ranges from a strong position that supposes nothing but the Whole exists to Schaffer's weaker argument that the parts simply are grounded in the Whole. Pluralism means only that more than one part must be the Whole, and contains no implicit argument for which parts these are (they need not be the smallest).

The debate that Schaffer addresses concerns (in his mind) the strongest schools of both mereological philosophies. For Monism, it is the soft school that has the Whole claim only priority, and not exclusivity. For the pluralist, it is a type of pluralism called atomism. Atomism is so named because it is a form of pluralism in which the smallest possible particles are necessarily the Ultimate Ground.

I will now spend some time explaining what exactly these two schools of Monism and Pluralism are, and then provide my interpretation of Schaffer's argument for Monism. Monism and Pluralism are both schools of thought on what Grounds the universe. To reference Aristotle, all other metaphysical foibles aside, what makes the statement "this universe exists in its current state" (in the sense of "Socrates is a philosopher") a true one?

Atomism in Pluralism is a theory that on the surface seems far more compelling and intuitive than Monism, and it posits that the roots of our universe can be found in the smallest particles. The view states that the smallest particles (whatever subatomic quarks these might be) Ground larger particles, and that these larger particles Ground atoms, and that this cycle continues. Much like a Lego house built out of bricks, our universe owes

its existence (and the truth of “this universe exists) to smaller particles that make up the Whole.

Monism is a theory that proposes the exact opposite, namely that our universe is grounded in the unitary whole of the universe, not the individuals particles within it. This does not mean that a god created everything, merely that if we were to view the foundation of our universe, we would see the complete whole whereas a pluralist would see the smallest particles and build his way up to a whole<sup>5</sup>. Once again, both of these theories work within the framework of the tiling constraint and foundationalism, and are therefore required to provide ordered support to the Cosmos and ground absolutely everything in existence.

For Schaffer, Monism appears as a far more plausible option. The first step he takes to demonstrate this, and one that I too shall undertake, is to dispel the notion that Monism is just intuitively wrong. At the most basic level, an argument against it might be something that employs the example of a sand castle. It seems natural to suppose that the individual grains of sand support the existence of the castle, and not vice-versa. This is a difficult notion to dispute, but it also has no bearing on a Monist viewpoint. That is because a sand castle, made up of grains of sand, is made up of *Concrete Particulars*, whereas the universe, according to the Monist, is an *Integrated Whole*. This is to say that the sand that makes up the castle is simply in a certain pattern, and that the castle we see is a human judgment upon the form of those grains of sand. That sand castle does not exist as a sand castle- it is merely a collection of sand that has been formed in a certain

---

<sup>5</sup> This example is not meant to imply anything causal or temporal, the use of Grounding is still emphasized despite the limits of my metaphor

way, and this has led us to calling it a sand castle. An *Integrated Whole* differs in that it is a distinct, existing entity. Concrete particulars have their “wholeness” artificially cast upon them by our concepts, and integrated wholes have their “wholeness” as parts of their nature. An example of something that might intuitively be thought of as an integrated whole is a human body. It is made up of a multitude of organs and cells, and yet no one would argue that a human body is to cells what a sand castle is to sand. The sand has no reason to be where it is, isn’t truly integrated, and hasn’t really been affected by the castle shape it is in, whereas the components of a body and the body as a whole are far more intricately linked.

It is far easier to imagine an integrated whole as being Monist. Of course, organs support the life of the body in some sense, but could the organs exist without the support of the body?<sup>6</sup> If we view the universe as a sort of integrated whole, it becomes far easier to see the conceivability of the argument the Monist makes. If the pluralist asks us to imagine a universe without atoms, the Monist can ask us to imagine an atom without a universe for it to exist in.

Proving that Monism is not completely counterintuitive and worth our consideration does not, of course, prove that Monism is the better theory. While Schaffer takes various steps to attempt to prove this, his final and most compelling step is what provides him with an effective argument, and consequently what we will be focusing on. The strongest argument Schaffer makes is to present to the pluralist the challenge of atomless gunk.

---

<sup>6</sup> In the sense of coming in to being. The body in this case is whatever form the entire human entity is at that stage in time (even if it’s embryonic)

## Atomless Gunk

The pluralist, as we have discussed already, proposes that the universe is grounded in the smallest possible particles. This gets to be tricky when we try to find what those smallest particles actually are. In theory, if something exists physically in this universe<sup>7</sup>, one could imagine it made up of smaller and smaller things. If something takes up space, it is infinitely divisible, and it is a challenge that seems to be corroborated in some ways by modern science, which keeps finding increasingly minute entities without ever getting closer to what could be viewed as a viable candidate for Ultimate Grounding particle. What the danger of a particle being infinitely divisible means to the pluralist should be clear- if there are an infinite number of increasingly smaller particles down the Grounding chain, there is no ending to which the pluralist can point to as the Ultimate Ground. If we accept that there is an Ultimate Ground, and there is strong evidence that there is, pluralism cannot find it.

The notion of an Ultimate Ground, which will play very heavily in the pages to come, warrants additional evaluation, in part due to the fact that some people deny that it is a Grounding requirement. As a philosophy, Grounding hopes to explain the way our universe is constructed. Regardless of whether it is pluralist or Monistic, it seems to stand to reason that there is something upon which all else is built. Without some form of “stop” to act as a cornerstone, we are left with a confusing image of the universe. We know that things in this universe are grounded by other things, and that those things are

---

<sup>7</sup> A trait the Pluralist will need to give whatever particle he champions as the universal Ground

Grounded, in turn, by yet more things. Without an Ultimate Ground, this would result in an infinite number of regressions, and an infinite number of regressions is a form of non-answer. A universe without an Ultimate Ground is the equivalent of the turtle example without a bottom turtle, bundling step, or any other attempt at explanation.

With the constraint of foundationalism, Schaffer attacks pluralism through the use of this deferment argument, which states that without an Ultimate Ground, being would be infinitely deferred down the causal chain, and therefore never achieved. (M62) Schaffer himself states infinite deferment would not work, as there need to be basic objects to be the cause of things in the first place.(M62) In other words, if responsibility is just passed down the line an infinite number of times, then nothing is responsible for the existence of the Cosmos, and the Cosmos can't exist. Necessarily, something needs to be responsible. Atomless gunk shows that the pluralist's view can be equated with infinite deferment, and therefore doesn't explain how being is achieved.

Denying an Ultimate Ground to the pluralist through atomless gunk is a vital step for Schaffer. Atomless gunk does not require the universe to actually be gunky, despite the compelling reasons to believe it is, it merely suffices to show that the Pluralist cannot account for gunk.

There are, of course, ways in which the Pluralist might try to escape his predicament, but many of these are fairly easily dismissed. He could allow for infinite particles, but this would prevent him from having an Ultimate Ground, which would be necessary for Pluralism to be a good theory of Grounding. He could try to find some other overarching support for the gunk, but this would lead him to a form of Monism, or



he could dismiss atomism<sup>8</sup>, but this would bring another host of troubles for him. Without atomism, the mereological order of our gunk seems to be without priority, in that there is no reason for one layer of gunk to be privileged above the others. If we just pick a random turtle out of our world supporting turtles, and it has other turtles above and below it, what reasons do we have to justify our choice of that turtle as the one that holds up the universe? The Ultimate Ground, by definition, must necessarily be prior to other things. Without atomism, the pluralist has no way to show that any layer of gunk would be prior to the others.

For the Monist, the possibility of atomless gunk does not cause nearly so much consternation. If the Ultimate Ground is the Whole, then he need not worry about how many infinite, indiscernible subdivisions exist. He already has his Ultimate Ground.

---

<sup>8</sup> A pluralist rejecting this would say that the ultimate Ground is a particle somewhere along the chain of gunk, but not the smallest.

## The Ultimate Ground

In my view, Schaffer's atomless gunk is an extremely compelling view that a pluralist will have a hard time escaping from. That being said, it requires us to accept several premises in order to have the thrust it should, and it is the weakness within these premises that is worth exploring.

The one weakness we shall be looking at concerns the Ultimate Ground. As discussed earlier, the most compelling argument Schaffer produces is one in which we deprive the pluralist of his Ultimate Ground. Schaffer first frames both Monism and Pluralism with the tiling constraint and with foundationalism. All of the work he does for Monism relies on the assumption that the universe must have a foundation, and relies on the pluralist not escaping this assertion in order to give him atomless gunk (the deferment argument). Without the Ultimate Ground, however, Schaffer cannot have foundationalism, a necessary requirement of the arguments for his Monism, and the pluralist can easily avoid his attacks. The deferment argument, as compelling as it is, only works when an Ultimate Ground is necessary. Without the necessity of an Ultimate Ground, Schaffer can't effectively attack pluralism.

In my mind, Schaffer does not adequately argue for the Ultimate Ground, and there is enough philosophical debate on the topic to warrant additional coverage. As a result, I will now focus more deeply on what exactly the Ultimate Ground is, how Schaffer argues for it, and why it is so vital to Monism. I will then highlight the shortcomings of his argument.

The Ultimate Ground is the thing with the ultimate priority in the Cosmos. The Cosmos needs to be dependent on it, and it can depend on nothing else. If something that Grounds is a relationship involving the dependence of truth on being, then the Ultimate Ground is the ultimate version of that. It needs to encompass everything, and no true statement, regardless of what it is, can be made without somehow depending on the Ultimate Ground. If we speak of the Cosmos, the Ultimate Ground must explain literally everything-even if we were to accept the notion of some sort of ultimate god, even he would need to be explained by the Ultimate Ground (although one could argue he is the Ultimate Ground). This is because, by virtue of existing, he would need to part of the Cosmos, and then the Ultimate Ground would need to Ground him too.

It is important to note here that the mereological question does not concern itself with what caused the universe, something with an altogether different debate surrounding it. The question of the Cosmos the Ultimate Ground addresses involves the Cosmos in its current, existential state. What is the most fundamental part of what exists? This concept is one that can take a while to understand, and is perhaps best explained by the pie example used earlier. If, for example, I baked a pie and placed it on the counter, there would need to be something about that pie that is mereologically prior. What made the pie come to be and how it got where it was is not important. The mereological question we face when confronted with a pie on the counter is not based in the ingredients or in the baker, but in the state of the completed pie. What of the traits of the pie, in this moment, are the prior ones? What does the pie need that is currently has to exist as it currently does? Much in the way that a foundation must support a house, something must support the pie.

The contention that surrounds this debate, especially when we depart our metaphorical explanations and focus on the Cosmos itself, is the actual need for such an Ultimate Ground. It must support itself, and it needs to be completely exhaustive. The pie example, while illustrative, has significant problems. For one, in order for us to get to the *Ultimate Ground*, it needs to be foundationalist and Ground the exhaustive Cosmos. In our pie example, we separated it from the rest of the universe, such as the table it stands on and the gravity and atmosphere that helps it keep the shape it has. The definition of the Cosmos is such that there can be nothing outside of it. There may be things outside of the universe, but these things, by virtue of being, would need to be in the Cosmos, and by being in the Cosmos, would need to be explained by the Ultimate Ground. As explained by the tiling constraint, there can be no part outside the Whole, and no whole without every single part in existence.

What makes this problematic for a mereologist is the fact that the Ultimate Ground, in order to exist, must play a role that a “god” might traditionally inhabit. Something so fundamental and without cause or other things prior to it seems extremely counterintuitive, as there is nothing readily accessible to us that shares the traits it supposedly has. Even a god, by this definition, would be a part of the Cosmos and would therefore fall under the purview of the Ultimate Ground. The process of Grounding itself is extremely intuitive and accessible, but seems to be, as Kant might say, extremely experience based. This seems to suggest that any sort of claims we make about things beyond our experience are arbitrary, and the Ultimate Ground falls in to that category. It seems to me, rather worryingly, that Schaffer simply makes an arbitrary leap from Grounding to the Ultimate Ground, and there is very little work of his that I can find that

seems to strongly argue for the Ultimate Ground, instead he mostly just seems to accept it.

Ultimate Grounding being so unsupported opens it up to a variety of different avenues of attack. The pluralist could produce some form of notion of mereology that does not require an Ultimate Ground, and someone wishing to attack mereology altogether could bastardize the Ultimate Ground to a point that it can be used against mereology entirely.

For example, the atomless gunk theory, as discussed previously, makes compelling arguments against the pluralist who abandons the smallest particles as the Ultimate Ground to defend himself. The Whole modus operandi of the gunk argument focuses on depriving the pluralist of the Ultimate Ground. The arguments made by Schaffer do not address a complete rejection of the Ultimate Ground by the atomist; they merely address a reorganization of priority in which the pluralist makes the Ultimate Ground another “layer” of mereological structure, which Schaffer argues has no reason for being prior to the others. While this is compelling, a pluralist could also choose to simply reject the Ultimate Ground as necessary at all, and rely instead the very infinite regression designed to defeat Pluralism. One could argue that there are other fundamental aspects of the Cosmos that do not need something so ultimate to be plausible. For example, time could simply always have been. One could also make the argument that time had a beginning, but the complexities of this debate have been shown throughout countless historical debates between philosophers. The simple truth is that both sides can’t really do anything compelling. It’s extremely difficult to conceptualize of time has

having been infinite in the past, but it's equally difficult to imagine that it had a beginning. The same can be said of Grounding arguments. A pluralist could retreat to such an infinite regression without a Ground and say that his view of the mereological properties of the universe is in no way less compelling than Schaffer's, as the pluralist presents a view he can argue is no more logically flawed than the Monist's. When we attempt to explain things beyond our experience or understanding, we reach a sort of "blurriness".

### Limiting Schaffer

Schaffer has two ways to getting to the Ultimate Ground. The first method Schaffer takes is to assume the existence of an Ultimate Ground. The second method is to make an argument for the Ultimate Ground based on necessity. (M62) The first method, based in assumption, is extremely weak. Assumptions carry no real argumentative weight, and it would be very easy for a pluralist to simply counter-assume that there is no Ultimate Ground. Without any argumentative heft favoring the Ultimate Ground, there would be no reason to prioritize Schaffer's assumption over the assumption of the Pluralist, and Schaffer would lose what makes his argument compelling.

The second method Schaffer employs is not so easily dismissed. In order to show that Schaffer's argument for the Ultimate Ground is weak, I will need to demonstrate that he relies on the principle of sufficient reason, or the "PSR". The PSR is a principle that states that there must be a reason for everything. Nothing can just "be". No thing, state or

entity can exist without some cause. If I can successfully show that Schaffer needs to employ the PSR, I can then refute his arguments for the Ultimate Ground with a Kantian approach to limiting knowledge.

Schaffer's argument for the Ultimate Ground is the deferment argument. As he says, "Being would be infinitely deferred, never achieved" (M62). In order for this argument to work against the pluralist, Schaffer needs the PSR. If we do not have the PSR, infinite deferment is not an issue for the pluralist-without the PSR, there is no rule that stipulates a need for something to have responsibility. In fact, the nature of something that would Ground absolutely everything in the Cosmos is arguably just as elusive and illogical as the concept of being as infinitely deferred. As a result, Schaffer needs the PSR in order to use the deferment argument. While he never says it explicitly, there is an implicit requirement for it. Stating that there has to be an explanation for absolutely everything, as Schaffer does when he uses the deferment argument, involves the PSR.

Having established that Schaffer argues for the Ultimate Ground in a way that necessitates the use of the principle of sufficient reason, I will now be able to deny him knowledge of the Ultimate Ground using Kant, and therefore deny him the right to make any claims about the existence or necessity of a foundationalist Ultimate Ground.

As the tiling constraint and foundationalism suggest, absolutely everything in the universe needs to be grounded by the Ultimate Ground. The PSR corroborates this. According to these rules then, space and time would need to be included in the bundle of the Cosmos that the Ultimate Ground is responsible for.

I will now attempt to limit Schaffer's access to the Ultimate Ground the use of Kant's transcendental limits of space and time, two things which Schaffer's rules force him to account for. The end goal of this attack is to show that any sort of claim Schaffer could make about the Ultimate Ground would be limited by knowledge and therefore baseless. In showing that Schaffer has to make arbitrary leaps to prove the Ultimate Ground, I hope to demonstrate a way in which the pluralist can gain a valuable strategic foothold. Schaffer, requiring the implicit use of the PSR, would be limited by the weakness of that argument. If I can use Kant to refute the conclusions that Schaffer reaches through the PSR, he could not simply abandon the principle of sufficient reason in order to escape my attack, as without it, he would lose his deferment argument. Essentially, Schaffer will need to rely on the principle of sufficient reason, and I will seek to refute it.

The argument I will use, based in Kant, will show that the nature of the Ultimate Ground is outside of the limits of our attainable knowledge. Although there is a great deal of complexity and intricacy in the arguments Kant makes, we only need to concern ourselves with how Kant limits and allows for knowledge. For Kant, there are two a priori intuitions that provide a sort of "boundary" for knowledge. These two a priori intuitions, space and time, frame our knowledge because they are things human minds require to process and conceptualize information. We intuitively understand the concept of space, and by necessity place all things with extended bodies in to the spatial realm. Time has similar properties in that all of our experience and understanding takes place within the confines of time. Essentially, space and time are the basic things human minds



need in order to make sense of the universe. Things that are not spatial or atemporal are simply beyond us, because the human mind is not equipped to deal with them.

The problem this poses for Schaffer, as we have discussed, is that the nature of the Ultimate Ground requires it to be, at minimum, one step more fundamental than space and time. The Cosmos, by Schaffer's definition, needs to include everything, and everything includes space and time. As a result, an Ultimate Ground would also need to explain space and time. If we were to imagine a Grounding chain down to the Ultimate Ground, it would need to be something that Grounded time and space. Otherwise, space and time would not be accounted for, something the PSR cannot allow.

This is a problem for Schaffer because of the requirements that he has set upon Grounding. Grounding needs to be irreflexive, asymmetric, and transitive. (G7) These requirements essentially mean that (1) if A Grounds B, B cannot Ground A (2) A cannot Ground A, and (3) if A Grounds B and B Grounds C, then A also Grounds C. The important characteristic here is the irreflexive nature of Grounding. If the Ultimate Ground has to, by definition, Ground time and space, then time and space cannot Ground the Ultimate Ground. This means that the Ultimate Ground does not require time and space, and therefore is beyond them. If the Ultimate Ground is beyond time and space, our minds are not equipped to work with the concept of an Ultimate Ground, and we cannot have any knowledge of it. If, by nature, the Ultimate Ground is something we can never have knowledge of, we cannot make any claims about it nor can we prove its existence.

Even use of the PSR is limited by space and time. Space and Time, as Kant presents them, are a priori intuitions, and as I have explained, responsible for how we can view and make sense of the universe. If the Ultimate Ground is beyond them, we have no right to make any sort of claims about them. The PSR operates on principles that take place within space and time, and so, while requiring a cause within those boundaries seems appropriate, there is no sensible way we can even imagine what lies beyond them. As a result, Schaffer cannot argue that the PSR still applies beyond space and time, let alone that anything beyond space and time exists. We have no concept of physics, dimensionality, or any other property of something that could hypothetically exist beyond space and time, and so we cannot ascribe causal necessity to such an object. Without this, Schaffer either needs to find some way to gain his Ultimate Ground without the PSR, or cede that he cannot truly argue for the Ultimate Ground effectively given the constraints that he has placed upon Grounding. If he gives up the PSR, he loses his deferment argument, and without the deferment argument, the pluralist will not need to worry about atomless gunk.

The response here, defending the PSR, would argue that the flaw above is that differentiating between X (within space and time) and Y (outside of space and time) is itself an arbitrary step. Even if the Ultimate Ground is beyond Kantian limits of knowledge, it is still a part of the same Cosmos, and subject to the same rules. The Ultimate Ground and Grounding are both part of the same world-both part of X. One might, for example, say that there can be no square circles, and confidently project such an assertion beyond what we have knowledge of. The problem with sort of defense is that it requires us to once again operate within the rules of the universe that we understand.

With the advent of multiverse theories and various dimensional mathematical theories, even something that seems as fundamentally accurate as the impossibility of a square circle can be effectively challenged. While I will cede that I cannot imagine a square circle, I can also cede that I cannot imagine an 8-dimensional demi-cube, as it exists in 5 more dimensions than I currently have a concept of. Despite my inability to imagine it, however, there does exist strong mathematical evidence for the existence of such geometric structures in extra dimensions.<sup>9</sup> What this means for Schaffer is that he cannot simply refer to things within our concepts of space and time and say that they would apply beyond our experience. The possibility for multidimensional space shows the limits our own minds have in making universal claims based on even a priori cognitions.

Schaffer's own definition of Grounding prohibits the Ultimate Ground from being self-causing (it must be irreflexive). (M37) As "spooky" as having no Ultimate Ground or cause might seem to us, one cannot provide Ultimate Grounding as the answer without explaining exactly how it might work, otherwise one has taken absolutely no further steps than someone who does not accept an Ultimate Ground.

Having presented the argument, I hope to have shown that Schaffer cannot truly make compelling claims for the Ultimate Ground. The crux of the issue is that the Ultimate Ground is simply too alien a concept for us to clearly define or claim as being necessary when viewed through a lens of Grounding relations, as Schaffer does, because it requires us to break Schaffer's rules of Grounding without providing us with any good new rules to replace the broken ones with. My goal at this point, as I have stated from

---

<sup>9</sup> <http://www.pbs.org/wgbh/nova/physics/imagining-other-dimensions.html>

the start, is not to disprove Monism, but simply to show the failings of Schaffer's argument for it. As a result, my goal for the rest of this paper will be to attempt to construct an argument that can compellingly show what an Ultimate Ground might be, and to provide us with the knowledge we need to make assertive claims about how the Ultimate Ground exists. I believe I can do this through analysis of the relational properties of things.

### Redefining Grounding through Relation

Much as Schaffer needed Grounding to be explained in order to make his argument for Monism, I will now need to explain a view of relations in order to make my own argument for a view of Monism. In this, I hope to present relational properties as a sort of Grounding-albeit far less ambitious and strong than what Schaffer presents. I aim to describe the Grounding relationship between the Monistic whole and individual parts of the universe as relationally necessary, but not as foundational. Without the constraints of foundationalism, my Monism will not be susceptible to the same attacks Schaffer's Monism was.

Relational properties are the properties that require other things in order to exist or be understood. There are two different ways in which to consider them. The first is a relationship between multiple objects that determines what they are. For example, "big" is a relational property. In a vacuum, something cannot be big. We need something smaller than the first object in order for the first object to be considered big in relation. Properties, like hard, soft, cold, small and strong are all relational. The second way I will

define something as having a relational property is that it requires another thing in order for us to conceive or make sense of it. For example, a sphere's spherical nature is not relational in the way that size is, as a sphere in a vacuum is still a sphere. It does, however, require space and extension in order to be spherical, matter in order to be an object, and something that is not the sphere to surround it. It is not defined by the things required for it to exist, but it does require them in order to exist.

From these two definitions of what relational properties, we can begin to see a sort of Grounding relationship between objects. In the first way of viewing relational properties, we can see that something like "big" or "hot" can exist only because the "big" or "hot" object has these properties in relation to something else. In essence, there is a sort of Grounding relationship between the objects in existence, as they define things about each other. Rather than say that these relational properties are merely constructs, I would propose that these are real properties and vital to our concepts of the things that have these properties. The fact that they exist in relation to other things does not mean that they are not real, only that they require other things. The fact that they require other things means that there exist a sort of Grounding relationship. In the second viewing of relational properties, the Grounding relationship is easy to understand. If something can only exist because of other things, then those other things are Grounds. This view seems completely in line with the explanation of Grounding that Schaffer originally presented, which we had previously discussed as being the dependence of truth on being. In a way, this is how I seek to define the exact nature of relational properties.

From the two ways of viewing relational properties, we can see how they can be applied to Grounding relationships. We can use it to help conceptualize of how exactly Grounding works and where Grounding takes place. While interesting, these relational properties as we have defined them do not do much to help us with our quest for an Ultimate Ground. There is, however, a way that we can advance our concepts of relational properties to do just that.

We know that things that have relational properties are things that are grounded, because these things can only exist as a result of other things. If, then, we can find something without relational properties-something that exists in a state unaffected and unsupported by anything else, we can quite compellingly argue for this thing being the Ultimate Ground. In order for this to work, it would genuinely need to be independent of anything else in the Cosmos. For example, an atom would not work, as it is spatially extended, and by removing spatial extension, I could show that the atom requires spatial extension to exist.

### Space-Time as the Ultimate Ground

In my mind, the thing that is most compellingly independent of anything else is Space-Time. By Space-Time, I mean the concept of extension that Kant considers to be an a priori intuition. Space-Time is unique in that it can fit the description of what Schaffer calls the soft Ultimate Ground, and that it truly does not require anything else in order to exist.

Space-Time can fit the notion of a soft Ultimate Ground because it can exist independent of everything else, but nothing can exist independent of it. If we imagine Space-Time, we need absolutely nothing else in order for us to have some sort of understanding of it. It may be difficult for us to clearly conceptualize Space-Time completely devoid of absolutely everything, but we still understand it to some degree. We can understand the void that exists between celestial bodies, and we can take this void and expand it infinitely. There is not a single thing that this infinite void needs in order to exist or to be understood except for itself. Of course, it requires spatial extension, but it is spatial extension. It requires itself, which is something that we allow of the Ultimate Ground. No particle or collection of particles is needed for space. In this way, it truly is something independent.

The second thing space would need in order to merit consideration of being the Ultimate Ground is that it would need to Ground everything. We can show that this is the case for space by demonstrating that spatial extension is a relational property of everything we have ever observed or understood to be part of this universe. Everything we understand is Grounded in something physical, and everything physical must, by nature, be extended. One could argue that there are things that are not spatial-our minds, for example. While this may be true, everything that is non-spatial must have something physical and spatial to anchor it to our world. Our minds can be viewed as purely physical (physicalism) as easily as they can be viewed as something else (dualism). Even ceding dualism, there is no way that we can have some sort of understanding of our mind without a relationship to our physical bodies and brains. This link means that even with potentially immaterial entities, we know there exists an existential relationship with the

physical, and everything physical has an existential relationship to spatial extension. In removing the strong causal implications that Schaffer implies when he defines Grounding, Space-Time doesn't need to show a clear supportive chain to anything, material or immaterial. It simply needs to show that the existence of these things is possible only with some relationship to Space-Time.

Another compelling reason to consider space as the potential Ultimate Ground is that it plays extremely well with Schaffer's account of soft Monism. Soft Monism proposes that while the "one" must be prior, it does not need to be everything. This means that Schaffer allows for distinct entities within the universe. If the Cosmos we inhabit is made of various extended bodies, then these are free to be completely distinct entities-there simply needs to exist some sort of relationship to space. This seems intuitive. If we deconstruct anything in this universe, we can reasonably expect space to be a part of that deconstruction, and yet it seems impossible to deconstruct space itself.

Another unique aspect of space, one that might help us answer the question of how the Ultimate Ground can support itself in a state where it is the final support, is that space is free of any existential requirements. What I mean by that is that there are no parts to it that need to exist in order for space to exist. This goes back to our relational arguments. If we imagine anything else, we can take something away to stop that thing from existing. We can take mass away from a ball, or color away from a painting, and in this method show that there exist supportive relationships. With space, however, we have no such problem. If there are things in space, and we remove them, then we still have space. Conversely, if there is nothing in space, and we "take away" nothing by adding



something, we still have spatial extension. Space-Time is capable of being both a void and completely filled. With nothing to be contingent upon, Space-Time is what we expect the Ultimate Ground to be.

Space as we have described it also satisfies the tiling constraint. It is exhaustive, as it incorporates everything in our Cosmos, and provides us with a view of the universe in which we need not worry about priority problems or spatial overlap. In fact, some of the baseline intuition towards a Monistic Ultimate Ground can be seen in the way that Schaffer produces the tiling constraint, which, independent of all other requirements, has some form of spatial laws.

One of the issues that might be brought up in light of my assertion, and one that I brought up against Schaffer myself, is that my claims about space seem to rely upon our own cognizant understanding of the universe, and therefore I claim to limit Schaffer using the same tools I myself use to access far more ambitious conclusions (instead of merely arguing for the existence of an Ultimate Ground, I argue that we already know what it is). In order for my claim to the Ultimate Ground to be valid, my Ultimate Ground needs to be exhaustive. This means that absolutely nothing can exist that does not have some sort of relationship with space.

What differentiates my claim for Space-Time from Schaffer's simple claim to an Ultimate Ground is that my argument concerns something that is in essence immaterial. This is allowed of my argument because unlike Schaffer, I am not working with foundationalism. Schaffer's attempts at an Ultimate Ground rely on part hood relations and seem to imply physical existence. The reason for this, as Schaffer's causal

requirements highlight, is that something cannot come from nothing. As a result, whatever Schaffer's Ultimate Ground is, it needs to be something. If it isn't something, it can't effectively provide the foundation that Schaffer needs it to. We have already denied Schaffer access to such a notion of the Ultimate Ground because of how inherently illogical and inaccessible it is to us. Space-Time does not suffer such shortfalls because it does not have to perform the same tasks. Without foundationalism, and basing Grounding in relational properties, my Ultimate Ground does not need to be material or directly responsible for the existence of everything in the universe. As I have shown, it fulfills all the requirements of the Ultimate Ground, including the tiling constraint, and yet it does not require any support because it is a sort of nothing in a material sense as much as it is a something. If everything somehow has an existential relationship to Space-Time, then Space-Time fulfills the role of an Ultimate Ground. Without foundationalism or the PSR, I do not need to explain why Space-Time exists. If I can say (as I believe I can) that every single thing in the Cosmos is somehow reliant on the existence of Space-Time, and Space-Time is reliant on nothing, I have shown it to be an Ultimate Ground.

Another potential issue with arguing for space as the Ultimate Ground is that it seems extremely counterintuitive to the classical notion of what the Ultimate Ground must be. The classical idea is that the world around us is supported by things less accessible to us, and that these less accessible things are in turn supported by other, even less accessible things. It would stand to reason that based on this logic, the Ultimate Ground would exist in on mereological plane inaccessible to us. Space-Time is something that I argue for based on how strongly it plays in our human minds, but this by nature would be unconvincing to a skeptic.

One could posit a form of brain in a vat scenario<sup>10</sup> in which my BIV experiences a universe that is spatially extended, where the “real” universe has no such properties. My natural limitations as a BIV would preclude me from making any sort of substantial claims on the possibility of the numenal universe, let alone the nature of it. Given our definition of the Cosmos, this numenal world, potential or not, would need to be a part of the Cosmos. As a result, based on the (im)possibility of making any substantial claims about the numenal world, I couldn’t advocate for space as the Ultimate Ground.

In response to such an argument, I might choose to employ the remainder of Putnam’s argument, which attempts to strike out the numenal world entirely. While I do find this argument extremely effective for getting us to agnosticism about the numenal world, it has, in my mind, never made more than an arbitrary leap towards atheism about the numenal world. In light of this, my approach at this point would be to work for a soft redefinition of what the Cosmos entails. If we truly wish to include a numenal world that is beyond us, and in so doing strike out any viable claims towards space being the Ultimate Ground, we would by necessity strike out any possible metaphysics and any work towards mereology, something that no mereologist, pluralist or Monist, would want. If we instead work to define the Cosmos as the defined or definable universe-that which exists in the universe we inhabit and interact with, we can make more progress. In essence, this move brings us back to relational properties-everything in this version of the Cosmos needs to have some sort of relationship with the Cosmos. If there do indeed

---

<sup>10</sup> The Brain in a Vat Scenario is Putnam’s classic argument regarding the numenal world. The idea here is that we exist in some other world as brains in vats hooked up to computers, and that our entire universe is as a result of some sort of simulation. In the short version of this argument, Putnam eliminates the numenal world (the one in which our brain in a vat exists) because there is no way to refer back to it. Everything we refer to, including ourselves, is something that exists in the world we experience. In other words, Vat World is the only world that exists to us.

exists things so far beyond our universe that they have no relationship to our Cosmos, they aren't truly a part of our Cosmos anyway.

Having limited the Cosmos in such a fashion, I believe that I've created conditions that will allow me to make a strong claim for Space-Time being the Ultimate Ground. There might be a temptation to argue again for Schaffer's argument for the Ultimate Ground, but my belief is that the way I have limited the Cosmos still allows for a complex enough Cosmos that would allow the same inaccessibility argument to hold. It is important to keep in mind that I do not seek to completely disprove Schaffer-I am arguing for an evolution of his view of Monism. Instead, I seek to shift his argument for the Ultimate Ground in to a more compelling one by striking foundationalism and the weaknesses inherent in it. Even in a Cosmos that we have limited to one in which there are discernible relationships, there are things that would remain inaccessible to us, or that are subject to different rules of physics. I argued that Schaffer couldn't have access to his viewing of an Ultimate Ground because it needed to be something that didn't have anything else supporting it, and that we were incapable of thinking of something that is supported by nothing else or that requires no support. I believe that this assertion still holds true in the limited Cosmos. The reason I believe space to be different is that it isn't a something, and that that part of its relational nature allows it to be unsupported. Once again, I seek not to disprove Schaffer, merely to strengthen his argument against the pluralist. There are several different ways that Schaffer might attempt to remove the limits I have placed upon him, but as long as space can still be seen as the Ultimate Ground, I do not feel as if my conclusion becomes any less plausible. I also believe, that

given the arguments I have made for space being the Ultimate Ground, a pluralist would find little success in disproving the aforementioned interpretation of Monism.

### Differentiating Between Space-Time and Foundationalist Monism

Having made it to the point where I believe I have shown compelling reasons for Space-Time being the Ultimate Ground within a mildly altered version of Mereology, it remains for me to explain how exactly Space-Time would function as the Ultimate Ground, and to tie up some loose ends. The first thing for me to do will be explain the difference in the rules that Space-Time Monism and Schaffer's Monism operate under.

Schaffer operates under three primary principles, two of which are mentioned and one of which is implicit. Foundationalism and the Tiling Constraint define how the Ultimate Ground must act, and the PSR is implied in order for Schaffer to successfully employ his arguments against the pluralist. As a result of these arguments, we have a sort of Monism that requires relatively strong links between the Ultimate Ground and all other entities in existence. This is demonstrated by Schaffer's intuitive example of organs within the body (M47), Schaffer's Monism implies a sort of direct support, and foundationalism implies that the chain of Grounding be ordered and ultimate, in the sense that being cannot be infinitely deferred and that the Ultimate Ground needs to be causally (in a sense) responsible for every single thing in the universe-be it a god, space, or a pie on a counter. As a result, the chain of Grounding needs to move in one direction, with the largest supporting the smallest.

Space-Time Monism, on the other hand has a few key differences from Schaffer's view. Most importantly, it is not foundationalist. As a result, Grounding itself on this view is far less potent, and based in relational understanding, not causal links. As a result of not relying on Foundationalism, the Space-Time Monist can allow for causal support to start with the smallest particles or the largest particles, or anything in between. There is no necessary order to the chain of support, and it does not even need to be a chain. It suffices to say that everything needs to relate to Space-Time. Additionally, this sort of view gets us out of our need for the PSR. The deferment argument, a key component of Schaffer's belief, and ultimately a serious weakness, is inconsequential on this view. Either the PSR is true and something must cause all of the particles, or the PSR is not true and being can be infinitely deferred. The only thing that is important (and what is true in both cases) is that every single step of the way somehow relies on Space-Time.

In essence then, the most important difference between the two forms of Monism is that Schaffer's seems far more closely tied with causation, as well as being altogether more ambitious. It is as a result of this that it fails-Schaffer puts himself in a situation where is Monism needs to be explained at a level of depth that we can't even know exists, and any arguments at this level fall prey to their complexity and inaccessibility-we simply can't know what we're talking about. If we can't know what we're talking about, it becomes impossible to make any sort of compelling, logically sound claim. Space-Time, on the other hand, does not suffer from the same shortfalls because it is not as ambitious. In a way, it reimagines the Ultimate Ground so that the universe can be supported from both the bottom up and the top down. Changing the concept of Grounding from a causal one to a relational one means that we lose true understanding of

how exactly our universe is built, but that itself seems an overly ambitious goal and is not entirely necessary for proof of Monism.

The advantages of such a view are many. For starters, owing to the relational nature of this view of Grounding, we need only work with what is directly accessible to us. In saying that the Cosmos includes only that which has relational properties to things we can experience, we include mostly everything but conserve the ability to make substantiated claims. If the Cosmos was something that included absolutely everything, even that which might exist so far beyond our comprehension that we will never be affected by it or have knowledge of it, we would lose the ability to make claims of it that we can always back up. Removing Foundationalism also allows us to be flexible in how we see Grounding relations between things within the Cosmos. The foundationalist approach, requiring an ordered chain, seems extraordinarily limiting. We have conflicting intuitions about what Grounds what in different situations, and rather than forcing us to apply one Grounding direction to all situations as foundationalism does, Space-Time Monism affords us a great deal of flexibility. Changing the requirements of Grounding from causal to relational means that we do lose some claims of understanding about the universe, but the tradeoff is that we can substantiate our claims for an Ultimate Ground,. This, to me, seems well worth it.

## Conclusion

In the end, it appears to me as if the critical weakness of Schaffer's view, as any view of such a metaphysical nature possesses, is that it attempts to create rules for things beyond our understanding. The danger with this, in mereology as with anything, is that things beyond our understanding simply do not have rules, and as a result, a philosophical opponent can simply concoct their own logical proofs for competing views of the unknowable. If it's unknowable, by definition, it's impossible to know which view is right, and therefore none of these debates tend to get settled.

For Schaffer, I believe that he made this error when he employed foundationalism. By cutting out foundationalism and focusing instead on that which we could directly have knowledge of and observe, I hope to have created a proof that is understandable within the limits of our knowledge. While we do lose the explanation of what causes everything (such as "what are planets made of?"), I don't think that getting that far is actually a requirement for proving Monism, which states only that the Whole is mereologically prior to everything else. In fact, due to the inaccessibility of the nature of Schaffer's foundationalist Ultimate Ground, such relationships were never fully explained in Schaffer's Monism either.

In arguing for Space-Time as my Ultimate Ground, I managed to address a few of my primary concerns with metaphysics (the futility of arguing over the unknowable). In doing so, I had to cut down on what exactly the Cosmos is and what Grounding entails, but I believe that as a result, the proof it's left me with is far more compelling, and far more difficult for an opponent to refute. Despite this less ambitious approach, I believe



that the arguments I have made for Space-Time show it to be everything that an Ultimate Ground needs, and that simply removing foundationalism is acceptable given the nature of Space-Time and the way in which I ended up defining the Cosmos. Lastly, moving Grounding away from causation and towards relation has allowed me to more clearly differentiate between Grounding and causation.

While Schaffer's paper does provide most of the framework correctly, I believe that he is too ambitious in attempting to explain Monism and Grounding, and this forces him in to a few positions that he may not like. These positions are the ones that open him up to attack (the Ultimate Ground being beyond space and time, as well as the PSR). Changing his view to remove the weaknesses inherent in foundationalism leaves us with a framework into which Space-Time is viewed as the Ultimate Ground. Overall, it's a far more logically sound and argumentatively supported position, but it still meets all of our original requirements for the Ultimate Ground. In that sense, I believe I have shown that a convincing proposal can be made for Space-Time being the Monistic Ground of our Cosmos.

## Sources

Sources, when directly cited in the paper, are referred to as the abbreviation mentioned below within parentheses, as well as with the relevant page number, if applicable.

- (JK) Kreines, James. Various philosophy classes at Claremont McKenna, 2012-2015
- Groleau, Rick. “Imagining Other Dimensions”. PBS.com  
(<http://www.pbs.org/wgbh/nova/physics/imagining-other-dimensions.html>)
- (M) Schaffer, Jonathan. “Monism: The Priority of the Whole”. Philosophical Review, 2010
- (G) Schaffer, Jonathan. “Grounding in the Image of Causation”. Springer Science+Business Media Dordrecht, 2015